

AIR MONITORING SUMMARY REPORT
Shoreline Revetment; Site Grading and Consolidation of
Excavated Soil, Sediment, and Debris; and
Upland Slurry Wall Installation
Remedial Action, Parcel E-2
Hunters Point Naval Shipyard
San Francisco, California

Data from December 7, 2016 through February 3, 2017

Contract Number: N62473-12-D-2005

Contract Task Order: 0013

Prepared for:



Base Realignment and Closure
Program Management Office West Naval Facilities Engineering Command
33000 Nixie Way, Building 50
San Diego, California 92147

Prepared by:

CB&I Federal Services LLC
4005 Port Chicago Highway, Suite 200
Concord, California 94520-1120

Table of Contents

List of Figures	i
List of Tables	i
List of Attachments	i
Acronyms and Abbreviations	ii
1.0 Introduction	1
2.0 Monitoring Site Locations.....	1
3.0 Analytical Methods.....	2
4.0 Analysis of Air Monitoring Data.....	2
5.0 Air Monitoring Results.....	3
6.0 References	4

List of Figures

Figure 1 Air Monitoring Locations

List of Tables

Table 1 Air Monitoring Threshold Criteria

List of Attachments

Attachment 1 Air Sampling Results

Acronyms and Abbreviations

CB&I	CB&I Federal Services LLC
CFR	Code of Federal Regulations
DCP	Dust Control Plan
EPA	U.S. Environmental Protection Agency
HPNS	Hunters Point Naval Shipyard
L/min	liters per minute
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PAH	polynuclear aromatic hydrocarbon
PCB	polycyclic biphenyl
PM10	particulate matter larger than 10 microns in size
PUF	Polyurethane foam
TSP	total suspended particulates
Work Plan	<i>Final Work Plan, Shoreline Revetment; Site Grading and Consolidation of Excavated Soil, Sediment, and Debris; and Upland Slurry Wall Installation, Remedial Action, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California</i>

1.0 Introduction

CB&I Federal Services LLC (CB&I) is providing environmental remediation services to the U.S. Navy under the Environmental Multiple Award Contract, Contract No. N62473-12-D-2005, Contract Task Order 0013. CB&I is performing air monitoring at Hunters Point Naval Shipyard (HPNS) in accordance with the Dust Control Plan (DCP) included as Appendix D to the *Final Work Plan, Shoreline Revetment; Site Grading and Consolidation of Excavated Soil, Sediment, and Debris; and Upland Slurry Wall Installation, Remedial Action, Parcel E-2, Hunters Point Naval Shipyard, San Francisco, California* (Work Plan; CB&I, 2016). The DCP describes procedures that minimize dust during work activities, and requires air monitoring to ensure these procedures are effective. The DCP helps prevent exposure of residents and construction crews to potential airborne chemicals of concern, and dust from the work area.

This summary report describes the following:

- Where and how air monitoring samples are collected
- What test methods are used to analyze air monitoring samples
- How air monitoring data are evaluated.

This summary report also presents the air monitoring test results from December 7, 2016 through February 3, 2017 and compares the results with the established action levels included in the Work Plan (CB&I, 2016).

2.0 Monitoring Site Locations

Air monitoring stations were mobilized to collect air samples upwind and downwind of work areas for the duration of the project. The predominant wind direction at HPNS is from the west. Locations of air monitoring stations and wind direction are shown on Figure 1. Air monitoring is being performed to help ensure effective dust control. The locations of the air monitoring stations were determined based on the prevailing wind direction and can be modified as needed. A windsock is used to show wind direction and weather forecasts are checked daily at www.noaa.gov. Monitoring stations remain stationary while sampling is being conducted. Each monitoring station includes four separate monitoring systems for:

1. Total suspended particulates (TSP) and for arsenic, lead and manganese
2. Particulate matter larger than 10 microns in size (PM10)
3. Polycyclic biphenyls (PCBs) alternated with polynuclear aromatic hydrocarbons (PAHs)
4. Asbestos.

3.0 Analytical Methods

TSP, Arsenic, Lead, and Manganese. TSP samples are collected with a high-volume (39 to 60 cubic feet per minute) air sampler in accordance with U.S. Environmental Protection Agency's (EPA's) reference sampling method for TSP, described in Title 40 Code of Federal Regulations (CFR), Part 50, Appendix B. Each sample is collected on a filter over an approximately 24-hour period; the filter is then weighed to determine the amount of TSP collected. Once the amount of TSP has been determined, the sample is analyzed for arsenic, lead and manganese in accordance with one of the IO-3 methods identified in the *Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air* (EPA, 1999a). The equipment specifications and sampling procedures used, including the sampling apparatus, filters, equipment accuracy, equipment calibration, and quality assurance checks, all conform to those specified in the analytical method.

PM10. Air samples are collected and analyzed for PM10 in accordance with EPA's reference sampling method for PM10, described in 40 CFR Part 50, Appendix J. Each sample is collected on a filter over an approximately 24-hour period; the filter is then weighed to evaluate the concentrations of PM10 in ambient air.

PCBs. Air samples are collected and analyzed for PCBs in accordance with EPA Method TO-4A (EPA 1999b). Each sample is collected over an approximately 24-hour period. The sample is collected using a high-volume polyurethane foam (PUF) sampling apparatus, followed by gas chromatographic/multi-detector detection to evaluate PCB concentrations in ambient air.

PAHs. Air samples are collected and analyzed for PAHs in accordance with EPA Method TO-13A (EPA 1999c). Each sample is collected over an approximately 24-hour period. The sample is collected using a high-volume PUF sampling apparatus, followed by gas chromatography/mass spectrometry to evaluate PAH concentrations in ambient air.

Asbestos. Air samples are collected and analyzed for asbestos in accordance with the National Institute for Occupational Safety and Health (NIOSH) Method 7400, in the *NIOSH Manual of Analytical Methods* (NIOSH, 1994). Method 7400 requires that samples be collected on three-piece cellulose ester filters, which are fitted with conductive cowlings, at a sampling rate of between 0.5 liter per minute (L/min) and 16 L/min.

4.0 Analysis of Dust and Air Monitoring Data

Analytical results from air monitoring samples are compared with the threshold criteria listed in Table 1.

Table 1 Air Monitoring Threshold Criteria

Test Parameters	Threshold Criteria	Basis
PM10	5,000 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL ^a
TSP	0.5 mg/m^3	Basewide HPNS Level selected to minimize overall permissible dust release from sites
Arsenic	10 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL
Lead	50 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL
Manganese	200 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL
PCBs	500 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL
PAHs	200 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL
Asbestos	0.1 fiber/ cm^3	Cal/OSHA PEL

Notes:

^a – Cal/OSHA PEL for particulates not otherwise regulated (respiratory) used for PM10.

$\mu\text{g}/\text{m}^3$ – micrograms per cubic meter

Cal/OSHA – California Occupational Safety and Health Administration

fiber/ cm^3 – fibers per cubic centimeter

HPNS – Hunters Point Naval Shipyard

mg/m^3 – milligrams per cubic meter

PAHs – polynuclear aromatic hydrocarbons

PCBs - polycyclic biphenyls

PEL – permissible exposure limit

PM10 – particulate matter smaller than 10 microns in diameter

TSP – total suspended particulates

5.0 Air Monitoring Results

Weather information (including ambient pressure and temperature data) and air monitoring results are presented in the tables included as Attachment 1. Data were collected from upwind Station 13 and downwind Stations 14 and 10A. Station 14 was used as the downwind station on December 7, 2016 because excavation was performed in the Panhandle area and no material was on the radiological screening yard (RSY) pads. Station 10A was used as the downwind station starting on December 19, 2016 because excavated soil was on the RSY pads and personnel were actively working in this area. Data were not collected on December 8 through 16 and 23, 2016 due to rain. Samples were not collected on December 26, 2016 and January 2, 2107 because the site was shut down for the holidays. Samples were not collected from January 3 through February 3, 2017 because of rain and/or wet field conditions prohibited earthmoving activities.

The project TSP threshold criterion was exceeded on December 30, 2016. The criterion was exceeded in both the upwind and downwind air monitoring locations. The upwind TSP

concentration was reported at 1.6 mg/m³ and the downwind TSP concentration was reported at 0.9 mg/m³. Because the upwind TSP result was higher than the downwind TSP result, it can reasonably be concluded that the dust originated from an offsite, upwind source and Parcel E-2 activities did not contribute to the exceedance.

6.0 References

CB&I Federal Services LLC (CB&I), 2016, *Final Work Plan, Shoreline Revetment; Site Grading and Consolidation of Excavated Soil, Sediment, and Debris; and Upland Slurry Wall Installation, Remedial Action, Parcel E-2, Hunters Point Naval Shipyard, California*, October.

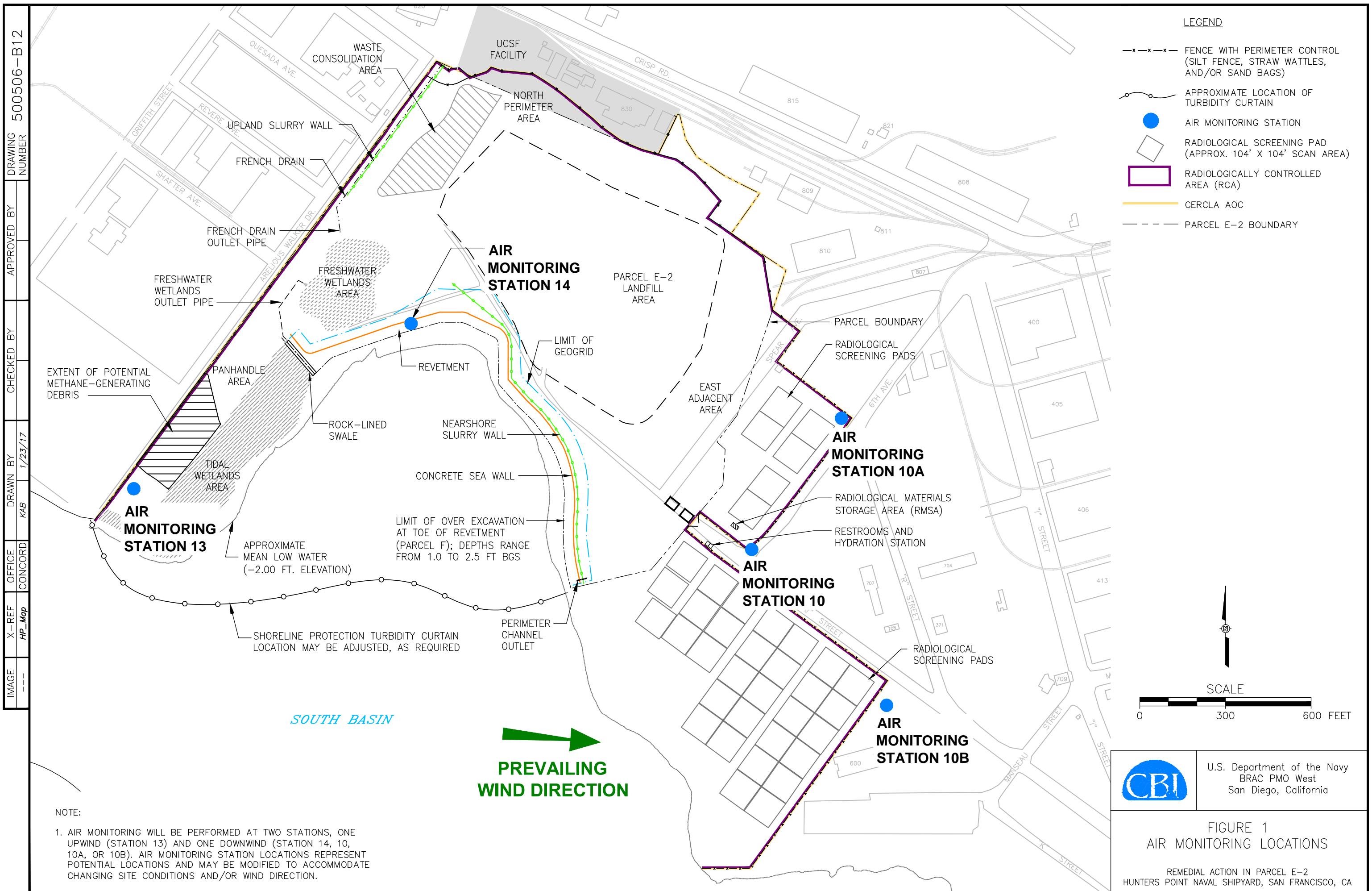
National Institute for Occupational Safety and Health (NIOSH), 1994, *NIOSH Manual of Analytical Methods, Method 7400*, August.

U.S. Environmental Protection Agency (EPA), 1999a, *Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air*.

EPA, 1999b, *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition. Compendium Method TO-4A, Determination of Pesticides and Polychlorinated Biphenyls in Ambient Air Using High Volume Polyurethane Foam (PUF) Sampling Followed by Gas Chromatographic/Multi-Detector Detection (GC/MD)*. EPA/625/R-96-010b, Office of Research and Development, January. Available Online at: <<http://www.epa.gov/ttnamti1/files/ambient/airtox/to-4ar2r.pdf>>.

EPA, 1999c, *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, Second Edition. Compendium Method TO-13A, Determination of Polycyclic Aromatic Hydrocarbons in Ambient Air Using Gas Chromatography/Mass Spectrometry (GC/MS)*, EPA/625/R-96/010b, January. Available Online at: <<http://www.epa.gov/ttnamti1/files/ambient/airtox/to-13arr.pdf>>.

Figure



Attachment 1
Air Sampling Results

Table 1
Ambient Pressure and Temperature Monitoring Results

Date	Ambient Pressure (in Hg)	Ambient Temperature (°C)
7-Dec-16	30.24	8.7
8-Dec-16	30.24	11.2
9-Dec-16	30.30	15.1
12-Dec-16	30.22	11.2
13-Dec-16	30.20	12.3
14-Dec-16	30.12	13.9
15-Dec-16	30.02	12.7
16-Dec-16	30.17	9.4
19-Dec-16	30.50	8.8
20-Dec-16	30.39	11.2
21-Dec-16	30.22	12.9
22-Dec-16	30.08	12.1
23-Dec-16	30.00	10.3
26-Dec-16	30.41	9.1
27-Dec-16	30.41	9.3
28-Dec-16	30.36	11.4
29-Dec-16	30.25	12.1
30-Dec-16	30.16	11.0
2-Jan-17	30.14	9.1
3-Jan-17	30.15	10.4
4-Jan-17	30.03	11.4
5-Jan-17	30.15	8.2
6-Jan-17	30.20	7.6
9-Jan-17	30.16	13.1
10-Jan-17	30.07	13.6
11-Jan-17	30.00	10.7
12-Jan-17	30.09	9.0
13-Jan-17	30.26	10.2
16-Jan-17	30.22	9.1
17-Jan-17	30.21	8.7
18-Jan-17	30.16	9.8
19-Jan-17	29.93	12.3
20-Jan-17	29.67	10.0
23-Jan-17	29.95	9.9
24-Jan-17	30.27	10.2
25-Jan-17	30.43	10.2
26-Jan-17	30.51	10.7
27-Jan-17	30.62	11.6

Table 1
Ambient Pressure and Temperature Monitoring Results

Date	Ambient Pressure (in Hg)	Ambient Temperature (°C)
30-Jan-17	30.33	12.9
31-Jan-17	30.20	11.8
1-Feb-17	29.91	11.5
2-Feb-17	29.89	13.8
3-Feb-17	29.83	14.9

Notes:

°C - degrees Celsius

in Hg - inches of mercury

Ambient pressure and ambient temperature data were gathered from the wunderground weather website (www.wunderground.com). Data were collected from station KCASANFR58 at 1200.

Table 2
TSP and Metals Monitoring Results

Date	Sample Location	Sampling Period (hours)	TSP (mg/m ³)	TSP Exceedance? (Yes/No)	Arsenic (µg/m ³)	Arsenic Exceedance? (Yes/No)	Lead (µg/m ³)	Lead Exceedance? (Yes/No)	Manganese (µg/m ³)	Manganese Exceedance? (Yes/No)
9-Jan-00	13	24.6	0.0220	No	<0.016	No	<0.016	No	1.2200	No
7-Dec-16	14	24.7	0.0210	No	<0.016	No	<0.016	No	1.3500	No
8-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
8-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
14-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
14-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
15-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
15-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Dec-16	13	24.1	0.041	No	<0.016	No	1.210	No	2.280	No
19-Dec-16	10A	23.9	0.022	No	<0.016	No	<0.016	No	1.750	No
20-Dec-16	13	23.9	0.046	No	<0.016	No	2.270	No	3.390	No
20-Dec-16	10A	24.1	0.024	No	<0.016	No	<0.016	No	1.720	No
21-Dec-16	13	24.0	0.066	No	<0.016	No	2.490	No	4.710	No
21-Dec-16	10A	23.9	0.026	No	<0.016	No	<0.016	No	2.090	No
22-Dec-16	13	7.4	0.024	No	<0.016	No	<0.016	No	2.250	No
22-Dec-16	10A	7.3	0.008	No	<0.016	No	<0.016	No	<0.016	No
23-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Dec-16	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Dec-16	13	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
26-Dec-16	10A	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
27-Dec-16	13	23.9	0.042	No	<0.016	No	<0.016	No	3.160	No
27-Dec-16	10A	24.0	0.036	No	<0.016	No	<0.016	No	3.320	No
28-Dec-16	13	24.0	0.034	No	<0.016	No	<0.016	No	2.610	No
28-Dec-16	10A	24.1	0.064	No	<0.016	No	1.290	No	5.820	No
29-Dec-16	13	24.0	0.047	No	<0.016	No	2.290	No	3.310	No
29-Dec-16	10A	24.0	0.028	No	<0.016	No	2.080	No	1.710	No
30-Dec-16	13	7.6	1.600	Yes	<0.016	No	<0.016	No	2.560	No
30-Dec-16	10A	7.5	0.900	Yes	<0.016	No	<0.016	No	1.180	No
2-Jan-17	13	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
2-Jan-17	10A	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
3-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
3-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
4-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
4-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
5-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
5-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Table 2
TSP and Metals Monitoring Results

Date	Sample Location	Sampling Period (hours)	TSP (mg/m ³)	TSP Exceedance? (Yes/No)	Arsenic (µg/m ³)	Arsenic Exceedance? (Yes/No)	Lead (µg/m ³)	Lead Exceedance? (Yes/No)	Manganese (µg/m ³)	Manganese Exceedance? (Yes/No)
6-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
6-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
10-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
10-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
11-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
11-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
17-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
17-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
18-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
18-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
20-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
20-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
24-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
24-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
25-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
25-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
27-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
27-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
30-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
30-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
31-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
31-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
1-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
1-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
2-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
2-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Table 2
TSP and Metals Monitoring Results

Date	Sample Location	Sampling Period (hours)	TSP (mg/m ³)	TSP Exceedance? (Yes/No)	Arsenic (µg/m ³)	Arsenic Exceedance? (Yes/No)	Lead (µg/m ³)	Lead Exceedance? (Yes/No)	Manganese (µg/m ³)	Manganese Exceedance? (Yes/No)
3-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
3-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Notes:

Sample locations are shown on Figure 1.

The threshold criteria are as follows: TSP = 0.5 mg/m³, arsenic = 10 µg/m³, lead = 50 µg/m³, manganese = 200 µg/m³.

The detection limit for TSP is 0.06 µg/m³ assuming a minimum sample volume of 1,600 m³. The detection limits for arsenic, lead and manganese are 16 ng/m³ assuming minimum sample volumes of 1,600 m³.

µg/m³ - micrograms per cubic meter

mg/m³ - milligrams per cubic meter

N/A - not applicable

ng/m³ - nanograms per cubic meter

TSP - total suspended particulates

Note 1 - Sample not collected due to precipitation.

Note 2 - Samples were not collected as project site was closed for holidays.

Table 3
PM10 Monitoring Results

Date	Sample Location	Sampling Period (hours)	PM10 ($\mu\text{g}/\text{m}^3$)	PM10 Exceedance? (Yes/No)
7-Dec-16	13	24.6	22.0	No
7-Dec-16	14	24.7	21.0	No
8-Dec-16	13	Note 1	Note 1	Note 1
8-Dec-16	14	Note 1	Note 1	Note 1
9-Dec-16	13	Note 1	Note 1	Note 1
9-Dec-16	14	Note 1	Note 1	Note 1
12-Dec-16	13	Note 1	Note 1	Note 1
12-Dec-16	14	Note 1	Note 1	Note 1
13-Dec-16	13	Note 1	Note 1	Note 1
13-Dec-16	14	Note 1	Note 1	Note 1
14-Dec-16	13	Note 1	Note 1	Note 1
14-Dec-16	14	Note 1	Note 1	Note 1
15-Dec-16	13	Note 1	Note 1	Note 1
15-Dec-16	14	Note 1	Note 1	Note 1
16-Dec-16	13	Note 1	Note 1	Note 1
16-Dec-16	14	Note 1	Note 1	Note 1
19-Dec-16	13	24.1	41.0	No
19-Dec-16	10A	23.9	22.0	No
20-Dec-16	13	23.9	46.0	No
20-Dec-16	10A	24.1	24.0	No
21-Dec-16	13	24.0	66.0	No
21-Dec-16	10A	23.9	26.0	No
22-Dec-16	13	7.4	24	No
22-Dec-16	10A	7.3	7.6	No
23-Dec-16	13	Note 1	Note 1	Note 1
23-Dec-16	10A	Note 1	Note 1	Note 1
26-Dec-16	13	Note 2	Note 2	Note 2
26-Dec-16	10A	Note 2	Note 2	Note 2
27-Dec-16	13	23.9	42.0	No
27-Dec-16	10A	24.0	36.0	No
28-Dec-16	13	24.0	34.0	No
28-Dec-16	10A	24.1	64.0	No
29-Dec-16	13	24.0	47.0	No
29-Dec-16	10A	24.0	28.0	No
30-Dec-16	13	7.6	1600.0	No
30-Dec-16	10A	7.5	900.0	No
2-Jan-17	13	Note 2	Note 2	Note 2

Table 3
PM10 Monitoring Results

Date	Sample Location	Sampling Period (hours)	PM10 ($\mu\text{g}/\text{m}^3$)	PM10 Exceedance? (Yes/No)
2-Jan-17	10A	Note 2	Note 2	Note 2
3-Jan-17	13	Note 1	Note 1	Note 1
3-Jan-17	10A	Note 1	Note 1	Note 1
4-Jan-17	13	Note 1	Note 1	Note 1
4-Jan-17	10A	Note 1	Note 1	Note 1
5-Jan-17	13	Note 1	Note 1	Note 1
5-Jan-17	10A	Note 1	Note 1	Note 1
6-Jan-17	13	Note 1	Note 1	Note 1
6-Jan-17	10A	Note 1	Note 1	Note 1
9-Jan-17	13	Note 1	Note 1	Note 1
9-Jan-17	10A	Note 1	Note 1	Note 1
10-Jan-17	13	Note 1	Note 1	Note 1
10-Jan-17	10A	Note 1	Note 1	Note 1
11-Jan-17	13	Note 1	Note 1	Note 1
11-Jan-17	10A	Note 1	Note 1	Note 1
12-Jan-17	13	Note 1	Note 1	Note 1
12-Jan-17	10A	Note 1	Note 1	Note 1
13-Jan-17	13	Note 1	Note 1	Note 1
13-Jan-17	10A	Note 1	Note 1	Note 1
16-Jan-17	13	Note 1	Note 1	Note 1
16-Jan-17	10A	Note 1	Note 1	Note 1
17-Jan-17	13	Note 1	Note 1	Note 1
17-Jan-17	10A	Note 1	Note 1	Note 1
18-Jan-17	13	Note 1	Note 1	Note 1
18-Jan-17	10A	Note 1	Note 1	Note 1
19-Jan-17	13	Note 1	Note 1	Note 1
19-Jan-17	10A	Note 1	Note 1	Note 1
20-Jan-17	13	Note 1	Note 1	Note 1
20-Jan-17	10A	Note 1	Note 1	Note 1
23-Jan-17	13	Note 1	Note 1	Note 1
23-Jan-17	10A	Note 1	Note 1	Note 1
24-Jan-17	13	Note 1	Note 1	Note 1
24-Jan-17	10A	Note 1	Note 1	Note 1
25-Jan-17	13	Note 1	Note 1	Note 1
25-Jan-17	10A	Note 1	Note 1	Note 1
26-Jan-17	13	Note 1	Note 1	Note 1
26-Jan-17	10A	Note 1	Note 1	Note 1

Table 3
PM10 Monitoring Results

Date	Sample Location	Sampling Period (hours)	PM10 ($\mu\text{g}/\text{m}^3$)	PM10 Exceedance? (Yes/No)
27-Jan-17	13	Note 1	Note 1	Note 1
27-Jan-17	10A	Note 1	Note 1	Note 1
30-Jan-17	13	Note 1	Note 1	Note 1
30-Jan-17	10A	Note 1	Note 1	Note 1
31-Jan-17	13	Note 1	Note 1	Note 1
31-Jan-17	10A	Note 1	Note 1	Note 1
1-Feb-17	13	Note 1	Note 1	Note 1
1-Feb-17	10A	Note 1	Note 1	Note 1
2-Feb-17	13	Note 1	Note 1	Note 1
2-Feb-17	10A	Note 1	Note 1	Note 1
3-Feb-17	13	Note 1	Note 1	Note 1
3-Feb-17	10A	Note 1	Note 1	Note 1

Notes:

Sample locations are shown on Figure 1.

The threshold value for PM10 is 5,000 $\mu\text{g}/\text{m}^3$.

The detection limit for PM10 is 0.06 $\mu\text{g}/\text{m}^3$ assuming a minimum sample volume of 1,600 m^3 .

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

N/A - not applicable

PM10 - particulate matter smaller than 10 microns in diameter

Note 1 - Sample not collected due to precipitation.

Note 2 - Samples were not collected as project site was closed for holidays.

Table 4
PCB Monitoring Results

Date	Sample Location	Sampling Period (hours)	Aroclor-1016 (µg/m³)	Aroclor-1221 (µg/m³)	Aroclor-1232 (µg/m³)	Aroclor-1242 (µg/m³)	Aroclor-1248 (µg/m³)	Aroclor-1254 (µg/m³)	Aroclor-1260 (µg/m³)	Aroclor-1262 (µg/m³)	Total PCBs (µg/m³)	PCB Exceedance? (Yes/No)
7-Dec-16	13	24.6	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
7-Dec-16	14	24.7	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
8-Dec-16	13	Note 1	Note 1	Note 1								
8-Dec-16	14	Note 1	Note 1	Note 1								
9-Dec-16	13	Note 1	Note 1	Note 1								
9-Dec-16	14	Note 1	Note 1	Note 1								
12-Dec-16	13	Note 1	Note 1	Note 1								
12-Dec-16	14	Note 1	Note 1	Note 1								
13-Dec-16	13	Note 1	Note 1	Note 1								
13-Dec-16	14	Note 1	Note 1	Note 1								
14-Dec-16	13	Note 1	Note 1	Note 1								
14-Dec-16	14	Note 1	Note 1	Note 1								
15-Dec-16	13	Note 1	Note 1	Note 1								
15-Dec-16	14	Note 1	Note 1	Note 1								
16-Dec-16	13	Note 1	Note 1	Note 1								
16-Dec-16	14	Note 1	Note 1	Note 1								
19-Dec-16	13	24.083	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
19-Dec-16	10A	23.917	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
21-Dec-16	13	24.050	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
21-Dec-16	10A	23.917	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
23-Dec-16	13	Note 1	Note 1	Note 1								
23-Dec-16	10A	Note 1	Note 1	Note 1								
26-Dec-16	13	Note 2	Note 2	Note 2								
26-Dec-16	10A	Note 2	Note 2	Note 2								
27-Dec-16	13	23.9	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
27-Dec-16	10A	24.0	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
29-Dec-16	13	24.0	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
29-Dec-16	10A	24.0	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
2-Jan-17	13	Note 2	Note 2	Note 2								
2-Jan-17	10A	Note 2	Note 2	Note 2								
4-Jan-17	13	Note 1	Note 1	Note 1								
4-Jan-17	10A	Note 1	Note 1	Note 1								
6-Jan-17	13	Note 1	Note 1	Note 1								
6-Jan-17	10A	Note 1	Note 1	Note 1								
10-Jan-17	13	Note 1	Note 1	Note 1								
10-Jan-17	10A	Note 1	Note 1	Note 1								
12-Jan-17	13	Note 1	Note 1	Note 1								

Table 4
PCB Monitoring Results

Date	Sample Location	Sampling Period (hours)	Aroclor-1016 ($\mu\text{g}/\text{m}^3$)	Aroclor-1221 ($\mu\text{g}/\text{m}^3$)	Aroclor-1232 ($\mu\text{g}/\text{m}^3$)	Aroclor-1242 ($\mu\text{g}/\text{m}^3$)	Aroclor-1248 ($\mu\text{g}/\text{m}^3$)	Aroclor-1254 ($\mu\text{g}/\text{m}^3$)	Aroclor-1260 ($\mu\text{g}/\text{m}^3$)	Aroclor-1262 ($\mu\text{g}/\text{m}^3$)	Total PCBs ($\mu\text{g}/\text{m}^3$)	PCB Exceedance? (Yes/No)
12-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
18-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
18-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
20-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
20-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
24-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
24-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
30-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
30-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
1-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
1-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
3-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
3-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Notes:

Sample locations are shown on Figure 1.

The threshold value for PCBs is 500 $\mu\text{g}/\text{m}^3$.

The detection limit for PCBs is 0.0017 $\mu\text{g}/\text{m}^3$ assuming a minimum sample volume of 300 m^3 .

$\mu\text{g}/\text{m}^3$ - micrograms per cubic meter

N/A - not applicable

PCBs - polycyclic biphenyls

Note 1 - Sample not collected due to precipitation.

Note 2 - Samples were not collected as project site was closed for holidays.

Table 5
PAH Monitoring Results

Date	Sample Location	Sampling Period (hours)	1-Methyl naphthalene ($\mu\text{g}/\text{m}^3$)	2-Methyl naphthalene ($\mu\text{g}/\text{m}^3$)	Acenaphthene ($\mu\text{g}/\text{m}^3$)	Acenaphthylene ($\mu\text{g}/\text{m}^3$)	Anthracene ($\mu\text{g}/\text{m}^3$)	Benzo(a)anthracene ($\mu\text{g}/\text{m}^3$)	Benzo(a)pyrene ($\mu\text{g}/\text{m}^3$)	Benzo(b)fluoranthene ($\mu\text{g}/\text{m}^3$)	Benzo(g,h,i)perylene ($\mu\text{g}/\text{m}^3$)	Benzo(k)fluoranthene ($\mu\text{g}/\text{m}^3$)
7-Dec-16	13	24.6	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
7-Dec-16	14	24.7	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
8-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
8-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
14-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
14-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
15-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
15-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
20-Dec-16	13	23.917	0.960	1.700	0.560	0.480	0.810	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
20-Dec-16	10A	24.083	0.770	1.400	0.670	0.240	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
22-Dec-16	13	7.367	<0.0017	0.280	0.230	0.330	0.210	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
22-Dec-16	10A	7.333	0.370	0.660	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
23-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Dec-16	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Dec-16	13	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
26-Dec-16	10A	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
28-Dec-16	13	24.0	0.500	0.900	0.370	0.750	0.400	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
28-Dec-16	10A	24.1	0.480	0.830	0.970	0.240	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
30-Dec-16	13	7.6	<0.0017	0.260	0.200	0.200	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
30-Dec-16	10A	7.5	<0.0017	<0.0017	0.280	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
3-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
3-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
5-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
5-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
11-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
11-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Table 5
PAH Monitoring Results

Date	Sample Location	Sampling Period (hours)	1-Methyl naphthalene ($\mu\text{g}/\text{m}^3$)	2-Methyl naphthalene ($\mu\text{g}/\text{m}^3$)	Acenaphthene ($\mu\text{g}/\text{m}^3$)	Acenaphthylene ($\mu\text{g}/\text{m}^3$)	Anthracene ($\mu\text{g}/\text{m}^3$)	Benzo(a)anthracene ($\mu\text{g}/\text{m}^3$)	Benzo(a)pyrene ($\mu\text{g}/\text{m}^3$)	Benzo(b)fluoranthene ($\mu\text{g}/\text{m}^3$)	Benzo(g,h,i)perylene ($\mu\text{g}/\text{m}^3$)	Benzo(k)fluoranthene ($\mu\text{g}/\text{m}^3$)
17-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
17-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
25-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
25-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
27-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
27-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
31-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
31-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
2-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
2-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Table 5
PAH Monitoring Results

Date	Sample Location	Sampling Period (hours)	Chrysene ($\mu\text{g}/\text{m}^3$)	Dibenz(a,h) anthracene ($\mu\text{g}/\text{m}^3$)	Fluoranthene ($\mu\text{g}/\text{m}^3$)	Fluorene ($\mu\text{g}/\text{m}^3$)	Indeno(1,2,3-c,d) pyrene ($\mu\text{g}/\text{m}^3$)	Naphthalene ($\mu\text{g}/\text{m}^3$)	Phenanthrene ($\mu\text{g}/\text{m}^3$)	Pyrene ($\mu\text{g}/\text{m}^3$)	Total PAHs ($\mu\text{g}/\text{m}^3$)	PAH Exceedance? (Yes/No)
7-Dec-16	13	24.6	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
7-Dec-16	14	24.7	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	No
8-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
8-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
12-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
14-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
14-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
15-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
15-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
16-Dec-16	14	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
20-Dec-16	13	23.917	<0.0017	<0.0017	0.900	1.800	<0.0017	1.800	4.300	0.740	14.050	No
20-Dec-16	10A	24.083	<0.0017	<0.0017	<0.0017	0.760	<0.0017	1.300	1.300	<0.0017	6.440	No
22-Dec-16	13	7.367	<0.0017	<0.0017	0.270	0.630	<0.0017	<0.0017	1.200	0.250	3.400	No
22-Dec-16	10A	7.333	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017	0.750	0.250	<0.0017	2.030	No
23-Dec-16	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Dec-16	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
26-Dec-16	13	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
26-Dec-16	10A	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2	Note 2
28-Dec-16	13	24.0	<0.0017	<0.0017	0.710	0.970	<0.0017	0.870	2.900	0.590	8.960	No
28-Dec-16	10A	24.1	<0.0017	<0.0017	<0.0017	0.760	<0.0017	0.970	1.300	<0.0017	5.550	No
30-Dec-16	13	7.6	<0.0017	<0.0017	<0.0017	<0.0017	0.330	<0.0017	0.230	0.830	<0.0017	2.050
30-Dec-16	10A	7.5	<0.0017	<0.0017	<0.0017	0.250	<0.0017	<0.0017	0.500	<0.0017	1.030	No
3-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
3-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
5-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
5-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
9-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
11-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
11-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
13-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Table 5
PAH Monitoring Results

Date	Sample Location	Sampling Period (hours)	Chrysene ($\mu\text{g}/\text{m}^3$)	Dibenz(a,h) anthracene ($\mu\text{g}/\text{m}^3$)	Fluoranthene ($\mu\text{g}/\text{m}^3$)	Fluorene ($\mu\text{g}/\text{m}^3$)	Indeno(1,2,3-c,d) pyrene ($\mu\text{g}/\text{m}^3$)	Naphthalene ($\mu\text{g}/\text{m}^3$)	Phenanthrene ($\mu\text{g}/\text{m}^3$)	Pyrene ($\mu\text{g}/\text{m}^3$)	Total PAHs ($\mu\text{g}/\text{m}^3$)	PAH Exceedance? (Yes/No)
17-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
17-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
19-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
23-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
25-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
25-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
27-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
27-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
31-Jan-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
31-Jan-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
2-Feb-17	13	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1
2-Feb-17	10A	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1

Table 5
PAH Monitoring Results

Notes:

Sample locations are shown on Figure 1.

The threshold value for PAHs is 200 µg/m³.

The detection limit for PAHs is 0.0017 µg/m³ assuming a minimum sample volume of 300 m³.

µg/m³ - micrograms per cubic meter

N/A - not applicable

PAHs - polynuclear aromatic hydrocarbons

Note 1 - Sample not collected due to precipitation.

Note 2 - Samples were not collected as project site was closed for holidays.

Table 6
Asbestos Monitoring Results

Date	Sample Location	Sampling Period (hours)	Asbestos (fibers/cm ³)	Asbestos Exceedance? (Yes/No)
7-Dec-16	13	24.6	<0.002	No
7-Dec-16	14	24.7	<0.002	No
8-Dec-16	13	Note 1	Note 1	Note 1
8-Dec-16	14	Note 1	Note 1	Note 1
9-Dec-16	13	Note 1	Note 1	Note 1
9-Dec-16	14	Note 1	Note 1	Note 1
12-Dec-16	13	Note 1	Note 1	Note 1
12-Dec-16	14	Note 1	Note 1	Note 1
13-Dec-16	13	Note 1	Note 1	Note 1
13-Dec-16	14	Note 1	Note 1	Note 1
14-Dec-16	13	Note 1	Note 1	Note 1
14-Dec-16	14	Note 1	Note 1	Note 1
15-Dec-16	13	Note 1	Note 1	Note 1
15-Dec-16	14	Note 1	Note 1	Note 1
16-Dec-16	13	Note 1	Note 1	Note 1
16-Dec-16	14	Note 1	Note 1	Note 1
19-Dec-16	13	24.083	<0.002	No
19-Dec-16	10A	23.917	<0.002	No
20-Dec-16	13	23.917	<0.002	No
20-Dec-16	10A	24.083	<0.002	No
21-Dec-16	13	24.050	<0.002	No
21-Dec-16	10A	23.917	<0.002	No
22-Dec-16	13	7.367	<0.006	No
22-Dec-16	10A	7.333	<0.006	No
23-Dec-16	13	Note 1	Note 1	Note 1
23-Dec-16	10A	Note 1	Note 1	Note 1
26-Dec-16	13	Note 2	Note 2	Note 2
26-Dec-16	10A	Note 2	Note 2	Note 2
27-Dec-16	13	23.9	<0.002	No
27-Dec-16	10A	24.0	<0.002	No
28-Dec-16	13	24.0	<0.002	No
28-Dec-16	10A	24.1	<0.002	No
29-Dec-16	13	24.0	<0.002	No
29-Dec-16	10A	24.0	<0.002	No
30-Dec-16	13	7.6	<0.006	No
30-Dec-16	10A	7.5	<0.006	No
2-Jan-17	13	Note 2	Note 2	Note 2

Table 6
Asbestos Monitoring Results

Date	Sample Location	Sampling Period (hours)	Asbestos (fibers/cm ³)	Asbestos Exceedance? (Yes/No)
2-Jan-17	10A	Note 2	Note 2	Note 2
3-Jan-17	13	Note 1	Note 1	Note 1
3-Jan-17	10A	Note 1	Note 1	Note 1
4-Jan-17	13	Note 1	Note 1	Note 1
4-Jan-17	10A	Note 1	Note 1	Note 1
5-Jan-17	13	Note 1	Note 1	Note 1
5-Jan-17	10A	Note 1	Note 1	Note 1
6-Jan-17	13	Note 1	Note 1	Note 1
6-Jan-17	10A	Note 1	Note 1	Note 1
9-Jan-17	13	Note 1	Note 1	Note 1
9-Jan-17	10A	Note 1	Note 1	Note 1
10-Jan-17	13	Note 1	Note 1	Note 1
10-Jan-17	10A	Note 1	Note 1	Note 1
11-Jan-17	13	Note 1	Note 1	Note 1
11-Jan-17	10A	Note 1	Note 1	Note 1
12-Jan-17	13	Note 1	Note 1	Note 1
12-Jan-17	10A	Note 1	Note 1	Note 1
13-Jan-17	13	Note 1	Note 1	Note 1
13-Jan-17	10A	Note 1	Note 1	Note 1
16-Jan-17	13	Note 1	Note 1	Note 1
16-Jan-17	10A	Note 1	Note 1	Note 1
17-Jan-17	13	Note 1	Note 1	Note 1
17-Jan-17	10A	Note 1	Note 1	Note 1
18-Jan-17	13	Note 1	Note 1	Note 1
18-Jan-17	10A	Note 1	Note 1	Note 1
19-Jan-17	13	Note 1	Note 1	Note 1
19-Jan-17	10A	Note 1	Note 1	Note 1
20-Jan-17	13	Note 1	Note 1	Note 1
20-Jan-17	10A	Note 1	Note 1	Note 1
23-Jan-17	13	Note 1	Note 1	Note 1
23-Jan-17	10A	Note 1	Note 1	Note 1
24-Jan-17	13	Note 1	Note 1	Note 1
24-Jan-17	10A	Note 1	Note 1	Note 1
25-Jan-17	13	Note 1	Note 1	Note 1
25-Jan-17	10A	Note 1	Note 1	Note 1
26-Jan-17	13	Note 1	Note 1	Note 1
26-Jan-17	10A	Note 1	Note 1	Note 1

Table 6
Asbestos Monitoring Results

Date	Sample Location	Sampling Period (hours)	Asbestos (fibers/cm ³)	Asbestos Exceedance? (Yes/No)
27-Jan-17	13	Note 1	Note 1	Note 1
27-Jan-17	10A	Note 1	Note 1	Note 1
30-Jan-17	13	Note 1	Note 1	Note 1
30-Jan-17	10A	Note 1	Note 1	Note 1
31-Jan-17	13	Note 1	Note 1	Note 1
31-Jan-17	10A	Note 1	Note 1	Note 1
1-Feb-17	13	Note 1	Note 1	Note 1
1-Feb-17	10A	Note 1	Note 1	Note 1
2-Feb-17	13	Note 1	Note 1	Note 1
2-Feb-17	10A	Note 1	Note 1	Note 1
3-Feb-17	13	Note 1	Note 1	Note 1
3-Feb-17	10A	Note 1	Note 1	Note 1

Notes:

Sample locations are shown on Figure 1.

The threshold value for asbestos is 0.1 fibers/cm³.

The detection limit is 0.003 fibers/cm³ assuming a minimum sample volume of 900 liters.

fibers/cm³ - fibers per cubic centimeter

Note 1 - Sample not collected due to precipitation.

Note 2 - Samples were not collected as project site was closed for holidays.